DIRECT TESTIMONY OF
ROSE M. JACKSON
ON BEHALF OF
SOUTH CAROLINA ELECTRIC & GAS COMPANY
DOCKET NO. 2017-5-G

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION.

A. My name is Rose M. Jackson, and my business address is 1300 12th Street, Suite F, Cayce, South Carolina. I am employed by SCANA Services, Inc. ("SCANA Services") as General Manager – Supply & Asset Management.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND BUSINESS BACKGROUND.

A. I graduated from the University of South Carolina in 1988 with a Bachelor of Science degree in Accounting. Following graduation, I worked for approximately three (3) years as an accountant for a national security services firm. In 1992, I began my employment with SCANA Corporation ("SCANA") as an accountant working directly for SCANA Energy Marketing, Inc. Over the years, I have held varying positions of increasing responsibility including Energy Services Coordinator, where I was responsible for scheduling gas for the Atlanta Gas Light System; project manager for the implementation of an automated gas management system; and Manager of Operations. In 1998, I became responsible for gas procurement, interstate pipeline and local distribution company scheduling and preparation of gas accounting information. In May 2002, I became Manager of

Operations and Gas Accounting with SCANA Services where I was responsible for gas scheduling on interstate pipelines and gas accounting for all SCANA subsidiaries. In November 2003, I became Fuels Planning Manager where I assisted all SCANA subsidiaries with strategic planning and special projects associated with natural gas. I held this position until promoted to my current position in December 2005.

Q. WHAT ARE YOUR DUTIES AS GENERAL MANAGER – SUPPLY & ASSET MANAGEMENT?

A. In regard to South Carolina Electric & Gas Company ("SCE&G" or the "Company") concerning this proceeding, I am responsible for gas supply and asset management functions. Specifically, my responsibilities include the oversight of planning, procurement of supply and capacity, nominations and scheduling, gas cost accounting, state and federal regulatory issues concerning supply and capacity, and asset and risk management.

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.

A. The purpose of my testimony in this docket is two-fold. First, I discuss SCE&G's portfolio of gas supply, addressing the various gas supply and transportation options available to the Company. Second, I discuss the state of the natural gas market during the period of August 1, 2016, to July 31, 2017 ("Review Period").

I. GAS SUPPLY

Q. PLEASE EXPLAIN THE GAS SUPPLY OPTIONS CURRENTLY AVAILABLE TO SCE&G.

A. There are three gas supply options that are available to SCE&G: (1) wellhead gas supply, (2) underground storage, and (3) liquefied natural gas ("LNG"). SCE&G's gas asset portfolio includes each of these supply options, and the Company has combined these supply options with interstate transportation to meet its firm demand under varying weather conditions at reasonable cost.

Q. PLEASE DESCRIBE THE AVAILABLE INTERSTATE PIPELINE TRANSPORTATION OPTIONS.

A. SCE&G purchases interstate pipeline transportation capacity on both a firm and interruptible basis from the three (3) interstate pipelines that provide service to SCE&G: Southern Natural Gas Company ("Southern"), Transcontinental Gas Pipe Line Corporation ("Transco"), and Dominion Energy Carolina Gas Transmission ("DECGT").

Interstate Firm Transportation ("FT") service permits SCE&G access to interstate pipeline transportation capacity on a priority basis. Interruptible Transportation ("IT") service is only available when FT customers, such as SCE&G, are not using their FT capacity. IT service is curtailed when FT customers use their capacity. In sum, FT and IT services use the same physical pipeline capacity, with FT service having priority. SCE&G contracts for FT service from the three

interstate pipelines serving South Carolina to ensure delivery of natural gas during colder periods when the full transportation capacity of these pipelines is used and when the demand for natural gas service is typically greatest. SCE&G currently holds 161,144 dekatherms ("Dt") of firm capacity on Southern and 64,652 Dt of firm capacity on Transco. In addition, as of the beginning of the winter heating season on November 1, 2017, SCE&G will have 344,929 Dt of firm capacity with DECGT in order to deliver gas from Transco and Southern and from SCE&G's in-state LNG facilities to SCE&G's system and anticipates an additional 50,000 Dt of firm capacity on DECGT, which DECGT has projected to be in-service by December 23, 2017. Exhibit No. __ (RMJ-1) provides a summary of the firm transportation contracts by pipeline supplier.

Q. HOW DOES SCE&G OPTIMIZE ITS FIRM TRANSPORTATION CAPACITY?

A. SCE&G optimizes its firm transportation capacity through "segmentation" which allows SCE&G to deliver up to twice as much supply on a portion of its firm capacity while paying only one demand charge. Interstate pipelines allow segmentation as long as the delivery point meter has sufficient capacity and gas supply does not cross the same delivery point.

Q. HAVE THERE BEEN ANY CHANGES AS TO HOW SCE&G OPTIMIZES ITS FIRM TRANSPORTATION CAPACITY?

A. Yes. As a result of the SCE&G Electric Department's increased need for gas capacity, the 2015 Memorandum of Understanding approved by the Public Service Commission of South Carolina ("Commission") in Docket No. 2015-5-G eliminated sharing of 27,000 Dt per day of interstate transportation base capacity between SCE&G's Electric and Gas Departments on October 31, 2016. However, the 2015 MOU maintains the ability of the departments to share gas transportation capacity on an interruptible basis as conditions warrant. The MOU also allows the departments to allocate transportation capacity; therefore, the Gas Department continues to have access to 27,000 Dt in Zone 1 of the DECGT system.

Q. WHAT INTERSTATE STORAGE ASSETS ARE AVAILABLE TO THE COMPANY TO AID IN DELIVERING RELIABLE AND SECURE GAS SERVICE TO SCE&G CUSTOMERS?

A. The Company currently has 4,908,848 Dt of storage capacity on Southern's system, with maximum daily withdrawal capability from this storage equaling 99,121 Dt per day at peak storage inventory. On Transco, SCE&G subscribes to 593,735 Dt of storage capacity, with a maximum withdrawal quantity of 19,789 Dt per day at peak storage inventory. Exhibit No. ___ (RMJ-2) reflects total storage and withdrawal capacity by pipeline supplier in a table format.

Q. PLEASE DESCRIBE THE LNG FACILITIES AND THEIR CAPACITIES.

A. SCE&G owns and operates two LNG facilities: one at Bushy Park near Charleston which can liquefy and store up to 980 million cubic feet ("Mmcf") of LNG, and the other at Salley in Orangeburg County, which can store up to 900 Mmcf of trucked-in LNG. LNG must be transported to Salley via truck because Salley has no liquefaction facilities.

Q. AT WHAT VAPORIZATION RATE CAN SCE&G USE THESE FACILITIES?

A. The combined storage capability of these facilities allows our system throughput planning to assume a maximum daily withdrawal quantity of 105 Mmcf/day. For example, assuming that storage volumes are at maximum capacity, Bushy Park's inventory would be exhausted in approximately 16 days if operated at a withdrawal rate of 60 Mmcf/day, and Salley's inventory would be exhausted in approximately 20 days if operated at a withdrawal rate of 45 Mmcf/day.

Q. WHAT BENEFIT DO THESE LNG ASSETS PROVIDE THE COMPANY?

A. SCE&G relies primarily upon its LNG assets to fulfill the peaking needs of its system and customers. Additionally, the on-system LNG service significantly adds to the reliability and security of gas supply during unfavorable operating conditions that may occur from time to time. For example, SCE&G's supply of gas could be unexpectedly interrupted because abnormally cold weather creates a spike

in demand which in turn causes equipment malfunctions, well freeze-ups, and other operational anomalies thereby limiting the supply of gas into South Carolina. In these instances, SCE&G could employ the use of its on-system LNG facilities for a limited time to offset or reduce any adverse effects caused by an upstream interruption.

Attached hereto as Exhibit No. ___ (RMJ-3) is a comparison of SCE&G's firm sales service to its capacity to deliver gas to serve firm demand. This exhibit indicates that the Company will have firm assets sufficient to provide a 2.81% system-wide operating reserve during the upcoming winter heating season months of November and December and a 5.48% system-wide operating reserve during the upcoming winter heating season months of January through March after the addition of the 50,000 Dt of firm capacity on DECGT projected to be in service by December 23, 2017. This operating reserve is conditioned on the availability of the LNG facilities.

Q. WHY IS THE SEGMENTED DECGT INTERSTATE CAPACITY NOT INCLUDED IN THE CALCULATION OF THE SYSTEM-WIDE OPERATING RESERVE FOR THE MONTHS OF JANUARY THROUGH MARCH ON EXHIBIT NO. ___ (RMJ-3)?

A. SCE&G did not include the 40,000 Dt of Segmented DECGT Interstate Capacity in the calculation of the system-wide operating reserve for the months of January through March on Exhibit No. ___ (RMJ-3) because it is unclear how the

addition of the 50,000 Dt of firm capacity on DECGT projected to be in service in late December 2017 will affect the ability to segment capacity and how much, if any, segmented capacity will be available to SCE&G.

Q. DO YOU ANTICIPATE ADDITIONAL INTERSTATE CAPACITY NEEDS IN THE NEAR FUTURE?

A. Yes. SCE&G will require additional interstate pipeline capacity in order to meet future design day forecasts as a result of (1) demand growth on its system for natural gas and (2) the inability to rely on segmentation between certain geographical regions, or area points, to the degree it has in the past.

The three interstate natural gas pipelines that serve SCE&G have indicated that, based on current contracts, they are fully subscribed. Typically, interstate pipelines are designed with little to no unsubscribed capacity therefore requiring advance notice to build facilities for additional natural gas throughput. As such, SCE&G continues to evaluate new interstate projects available in the marketplace and to seek opportunities to participate in larger interstate pipeline projects which may provide a benefit due to the economies of scale associated with such future projects.

Q. WHY IS SCE&G UNABLE TO CONTINUE TO RELY ON SEGMENTATION TO THE DEGREE IT HAS IN THE PAST?

A. SCE&G will no longer have the flexibility to rely on segmentation to meet design day needs between area points to the degree it has in the past due to more businesses subscribing to the DECGT pipeline to serve increased firm demand on the DECGT system. Historically, SCE&G has reviewed its firm capacity needs on a system-wide basis and relied on segmentation to meet design day needs between area points. However, as its ability to rely on segmentation decreases, SCE&G will be required to look at its system growth in more detail by area points rather than on a system-wide basis in order to determine where new facilities will need to be constructed and to contract for any necessary additional firm transportation by area points. As such, SCE&G has executed a precedent agreement with DECGT pursuant to which SCE&G will subscribe to 30,000 Dt per day of firm capacity in the Columbia area point, 5,000 Dt per day of firm capacity in the Sumter area point, and 15,000 Dt per day of firm capacity in the Charleston area point. DECGT has informed SCE&G that its projected in-service date for this firm capacity is December 23, 2017. Until DECGT completes construction on this project, SCE&G plans to utilize segmentation and shared capacity to meet its projected design day needs.

Additionally, as reported in Docket No. 2016-5-G, SCE&G contracted with DECGT for 12,000 Dt per day of firm capacity—1,000 Dts per day of firm capacity

in the Riverneck Road area point and 11,000 Dts per day of firm capacity in the Columbia area point—which began on November 1, 2016.

Q. HOW DOES SCE&G UTILIZE ITS COMBINED INTERSTATE STORAGE AND ON-SYSTEM LNG TO ENSURE RELIABLE GAS SERVICE?

A. There are two dimensions to storage services: peak capability and duration. SCE&G uses its storage to address both of these dimensions. Certain storage services are designed to meet spikes in demand on very cold days but only for a short period of time. The storage services in SCE&G's portfolio of this type include Transco LNG Storage Service and both the Bushy Park and Salley LNG facilities located on SCE&G's system. Accordingly, these storage services provide SCE&G with system reliability and peaking capability.

Other storage services are geared toward meeting demand over more of the winter period and not only on the coldest days. As set forth in Exhibit No. ___ (RMJ-2), the storage services in SCE&G's portfolio of this type include Transco Washington Storage Service ("WSS"), Transco Eminence Storage Service ("ESS"), Transco General Storage Service ("GSS") and Southern's Contract Storage Service ("CSS"). Therefore, these storage services provide SCE&G with duration capability. Through the active management of these assets, SCE&G is able to meet the needs of its firm customers on the coldest days of the winter and over the entire winter.

Q. PLEASE DESCRIBE THE CONSIDERATIONS EVALUATED BY SCE&G IN ASSEMBLING ITS GAS SUPPLY PORTFOLIO.

A. The Company's evaluations for assembling its gas supply portfolio include reviewing the gas supply, storage, transportation, and other assets already under contract. Other considerations include such things as geographical delivery limitations, maximum volumes, storage ratchets, and the cost of the various services. SCE&G then compares the resources against the firm demand under varying weather conditions. Finally, the Company determines whether additional resources are required to serve the firm demand.

Q. PLEASE DESCRIBE THE USE OF EACH OF THESE VARIOUS SERVICES WITHIN THE PORTFOLIO.

A. SCE&G places different levels of reliance on its various supply sources based on the time of year in question. Decisions related to the purchase of gas supply are based upon the best information available to SCE&G at the time of execution. During the winter heating season, the Company uses its wellhead gas as its principal supply, followed by the use of its natural gas supply stored in underground storage facilities. SCE&G primarily uses its on-system LNG to meet the last increment of demand on the coldest days or hours of the year.

As the winter progresses, this order of usage may be modified. For example, if South Carolina experiences mild weather during the early part of the winter and

storage inventories are relatively high, then underground storage and LNG withdrawals may be used instead of wellhead supply.

II. NATURAL GAS MARKET

Q. PLEASE DISCUSS THE STATE OF THE NATURAL GAS MARKET DURING THE REVIEW PERIOD.

A. Domestic natural gas supply continues to be the lowest priced and most abundant supply in the global natural gas market primarily due to domestic shale production. However, the cost of building new interstate pipeline infrastructure to move shale production continues to rise due to the amount of greenfield pipeline required to move supply from areas in the Northeast such as Marcellus and Utica to market. Interstate pipeline flows are also changing direction. Historically, interstate pipelines have moved gas from the Gulf of Mexico to the Northeast. Developed, current and proposed pipeline projects are reversing the flow to move gas from North to South. Further, the construction timeline to build interstate pipeline capacity is increasing due to more scrutiny from regulators, special interest groups and the public. New capacity projects are estimated to take four (4) years or more before they can be placed into service.

Regarding natural gas prices, the market began the Review Period in the low $2.80's per Dt. High national storage levels were offset by news of production declines resulting in a fluctuating market with prices first moving lower to the $2.50 per Dt range before increasing to the $3.40's only to drop back to the $2.50's by

early November. Due to a cool start to the winter season and large storage withdrawals in December prices moved up to nearly $4.00 per Dt. However, during the second week of January, the weather shifted to above-normal temperatures, and the market retreated to the $2.50's per Dt by late February. For the remainder of the Review Period, prices primarily ranged from $2.75 to $3.30 per Dt, with the Review Period ending at the low end of the range at $2.79 per Dt.

Q. PLEASE DESCRIBE THE TOOLS THAT THE COMPANY UTILIZES TO MITIGATE PRICE VOLATILITY TO ITS CUSTOMERS.

A. The Company relies on the approved 12-month rolling purchased gas adjustment mechanism, as described in more detail by Company Witness Robinson, and physical gas storage to mitigate price volatility to its customers.

III. COMPANY REQUESTS

Q. IN REGARD TO THE COMPANY'S PURCHASING PRACTICES, WHAT ARE YOU REQUESTING OF THE COMMISSION IN THIS PROCEEDING?

A. During the Review Period, SCE&G contracted for sufficient supplies of natural gas and provided reliable service to its customers. SCE&G also adequately maintained gas, storage, and transportation assets for its system during the Review Period at levels that were prudent and reasonably met the reliability and service needs of the system. It is my opinion that SCE&G's acquisition and management of these assets during the

Review Period has been prudent and reasonable. Therefore, I respectfully request the Commission find that SCE&G's cost for gas purchases and asset management were reasonable and prudent for the Review Period.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

South Carolina Electric & Gas Company
Existing Firm Transportation Contracts

Exhibit No. ___(RMJ-1)

		Maximum Firm Transportation Dt/Day	Expiration Date
Southern			
FSNG349 FT	Firm Transportation	44,078	August 31, 2018
FSNG349 FTNN	Firm Transportation	80,472	August 31, 2018
FSNG349 FT	Firm Transportation	36,594	August 31, 2018
		161,144	
Transco			
Z1 - Z5	Firm Transportation	3,209	December 30, 2020
Z2 - Z5	Firm Transportation	4,720	December 30, 2020
Z3 - Z5	Firm Transportation	3,587	December 30, 2020
Z3 - Z5	Firm Transportation	7,360	December 30, 2020
Station 65 (Sunbelt)	Firm Transportation	39,606	October 31, 2019
Station 85 (Sunbelt)	Firm Transportation	6,170	October 31, 2019
		64,652	
Dominion Energy Carolina Gas Transmission (DECGT)	Firm Transportation	1,500	April 30, 2028
	Firm Transportation	7,500	October 31, 2026
	Firm Transportation	12,000	October 31, 2036
	Firm Transportation	27,000	October 31, 2023
	Firm Transportation[(1)]	50,000	
	Firm Transportation	296,929	October 31, 2021
		394,929	

[(1)] The projected In-Service Date is December 23, 2017; the Expiration Date will be 20 years from the actual in-service date.

Note: The Transco and Southern systems interconnect with the DECGT system at a number of metering stations. Supply transported using the firm capacity contracted for the Southern and Transco systems are, in most instances, delivered to SCE&G's 96 delivery points by DECGT. Thus, firm transportation capacity on the Transco and Southern systems cannot be aggregated with the firm transportation capacity on DECGT to reflect accurately the firm transportation capacity available to deliver gas to SCE&G's customers.

INTERSTATE STORAGE AND LNG STORAGE

I. Interstate Storage

Pipeline	Type	Maximum Storage Quantity	Maximum Daily Withdrawal Quantity	Contract Expiration Date
Southern	CSS	4,908,848	99,121	August 31, 2018
Transco	ESS	115,846	13,854	September 30, 2029
Transco	GSS	26,366	503	March 31, 2023
Transco	WSS	447,938	4,715	March 31, 2019
Transco	LNG	3,585	717	October 31, 2018
Total Transco		593,735	19,789	
Total Interstate		5,502,583	118,910	

II. SCE&G On-System LNG (in mcf)

SCE&G	LNGS	1,880,000	105,000	

Note: All values are stated in Dt, unless otherwise noted

Exhibit No. ___(RMJ-3)

South Carolina Electric & Gas Company
Available System Wide Capacity to Serve Firm Sales Service Demand

	2017-18 Winter Reserve Capacity (Dt) Nov-Dec	2017-18 Winter Reserve Capacity (Dt) Jan - Mar
DECGT Firm Interstate Capacity	344,929	394,929 [1]
Segmented DECGT Interstate Capacity[2]	40,000	-
Total Capacity to Deliver Gas to SCE&G via DECGT	384,929	394,929
SCE&G's Peak Design Day Demand (Firm Sales Service to Customers)	407,191	407,191
Less: Direct Connect Firm Sales Service Customers	32,772	32,772
Net SCE&G Firm Sales Service Customers behind DECGT	374,419	374,419
Reserve dts	10,510	20,510
Reserve %	2.81%	5.48%

[1] Includes 50,000 Dts of the DECGT Project with anticipated In-Service Date of December 23, 2017
[2] Segmented Capacity utilizes existing Firm DECGT capacity at no additional demand cost.